

# RESPONSE OF ONION (*CALLIUM CEPA* L.) TO NITROGEN FERTILIZER RATES AND SPACING UNDER RAIN FED CONDITION AT TAHTAY KORARO, ETHIOPIA

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Onion is important in the daily Ethiopian diet though the average yield obtained by farmers is very low. This is attributed to a number of constraints among which are poor agronomic practices. Therefore, field experiment was conducted at Tahtay Koraro district to study the effect of nitrogen fertilizer and intra-row spacing on growth and yield of onion. The treatments consisted of a factorial combination of four rates of nitrogen (0, 50, 100 and 150 kg N ha<sup>-1</sup>) and four intra-row spacings (4, 6, 8, and 10 cm). Bombay red was the variety of onion used in the experiment. The experiment was laid out as RCBD with three replications. The analysis of variance revealed that N and intra-row spacing were significant. Both N and intra-row spacing significantly affected percentage bolting plants, leaf length, bulb diameter, and marketable yield. 100 kg N ha<sup>-1</sup> and a population of 833,300 plants ha<sup>-1</sup> was found to be the optimum rate to obtain higher marketable bulb yield of 26.72 tha<sup>-1</sup> and economically attractive benefits. Therefore, Bombay red variety could be planted at an optimum spacing of 6 cm x 20 cm or 833,300 plant population density ha<sup>-1</sup> in Tahtay koraro district of Northern Ethiopia.

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